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NOTES AND COMMENTS.

ANCIENT AND MODERN DENTISTRY.

THE relation of the teeth to our health, comfort, and appearance, is of paramount importance. The body being a unit the impairment of one part necessarily affects the whole. We cannot have proper digestion, assimilation, and nutrition if our food is improperly introduced into the stomach. Every one should recognize this as a prequisite to sound health. It is true that food products have been so improved and are so prepared that children and invalids are enabled to digest them without the aid of mastication, but such food is not intended for vigorous people.

The period of vigor depends largely on our digestion, which in turn depends on our ability to properly grind our food before it is swallowed. That one fact alone is not sufficiently considered by our bustling civilization. We have too many business and social engagements to think of our teeth, which is frequently an excuse for their neglect, and so we suffer from this neglect when there is no reason for it.

The utility and importance of the teeth has been known since the advent of man on this planet. Just how much care and attention were given to them in the early ages we may never know. From references in the Bible we must assume that they were regarded with due consideration. Doubtless the earliest mention of the teeth in literature, which has been preserved and is accessible to all, was when Jacob, in blessing his sons, said of Judah: that "His eyes shall be red with wine and his teeth white with milk." (*Gen.* xlix., 12.) According to Biblical chronology this was in 1689 B. C. We must infer that the patriarch appreciated the beauty and cleanliness of the mouth. In *Job* (xix., 20) we read, "My bone cleaveth to my skin, and to my flesh, and I am escaped with the skin of my teeth." Hence the expression, "I escaped by the skin of my teeth." The prophet Jeremiah gave expression to a fact, which, for twenty-five hundred years, has been a note of warning to the careless, when he said : "Every man that eateth the sour grape, his teeth shall be set on edge." Acids are the most destructive to the teeth of any agents known, and most dental troubles arise from them. While resting in the "security of God's protection," David said: "Thou hast broken the teeth of the ungodly," the idea being that they were rendered harmless to do injury.

During our Civil War I knew men who were exempt from military service because they had no teeth. Paper cartridges were used, which the soldiers would tear with their teeth in the act of loading. Being toothless, men were regarded as useless in time of battle. Some had their teeth extracted to escape military service.

While no specific data can be obtained as to the origin of dentistry, we know it was practised among the Egyptians at a very early age. Herodotus (500 B. C.), in writing of his travels through Egypt, at that time one of the greatest and most civilized countries in the world, mentions the division of medicine in that kingdom into special branches, and the existence of physicians, each of whom "applies himself to one disease only and not more. Some (physicians) are for the eyes, others for the head, others for the teeth, and others for internal disorders." It is thought that the Egyptians and Etruscans were farther advanced in the art of dentistry than any other people in that early period, for teeth filled with gold have been found in the mouths of mummies, indicating their advanced ideas. These people were the first to supply artificial substitutes in the mouth. Belzoni and others have found artificial teeth made of sycamore wood in ancient sarcophagi. The mode of fastening was by ligatures or bands of cord or gold wire, tying the substitute to its natural neighbors.

In 1885 some specimens of prehistoric dentistry were brought to this country by an English dentist of Liverpool. One was a gold plate with several human teeth attached. The specimens were found in an Etruscan tomb. The plate was ingeniously made, and I was surprised to see gold used for a base by such an ancient people. Archæological research may yet reveal things that will teach this generation. We modify, but must not flatter ourselves that we originate, all there is in dental art.

Ancient Greece is renowned as the "nursery of modern medicine." Hippocrates made a special study of the teeth. Aristotle (300 B. C.) also wrote extensively about them. Several Greek dental operators are mentioned as early as 300 B. C. Erasistratus is said to have deposited in the temple of the Delphian Apollo a leaden odontagoge, a tooth-drawer, to prove that "only those teeth ought to be removed which are loose, or relaxed, and for which a leaden instrument will suffice." Galen taught (150 A. D.) that the teeth were true bones, and declared that the canines should be called eye-teeth, because they received branches from that nerve which also supplies the eyes. Albacasis, an Arabian physician (about, 100 A. D.), gave rules for the replacement of lost teeth by substitutes, both natural and of animal bone or ivory.

These historic facts are mentioned that the reader may see that due importance was attached to the preservation of the teeth and the reconstruction of them, even in that remote period. During the mediæval period progress was made by men who gave special study to the teeth. During the seventh century many medical men in France and England published works on dentistry, but treated the subject anatomically and physiologically, rather than practically. No record can be found of anyone in America practising this specialty until the year 1766, although the population at that time was about two millions. In October of that year there arrived from England Mr. John Woofendale. This gentleman was (for that time) a regularly educated dentist, having been instructed by the dentist to George III. He remained here only two years, returning to England in 1768.* A few years later several dentists arrived here from France and England. Considerable progress had been made in these two countries during the seventeenth century. Previous to the introduction of porcelain teeth (first used in France in 1774 and brought to this country in 1807) substitutes for teeth were made of ivory from the hippopotamus and elephant. Besides human teeth the teeth of such animals as sheep and calves were also used.

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* In the beginning of the century there were not more than 100 dentists in this country; in 1850, there were 2,925; in 1870, 7,839, and in 1892 about 20,000.

Mr. John Greenwood, a patriot in the American Army of the Revolution, adopted dentistry as a profession in 1788. He became celebrated as the dentist of General Washington, having made several sets of teeth for him, which for neatness of execution were unsurpassed by any of European workmanship. They were carved from blocks of ivory. All animal substances, when placed in the mouth, are liable to become corroded and offensive. The teeth used and the bases on which they were attached alike being liable to this, imagine the discomfort to those who had nothing better to wear!

Since the beginning of the present century the growth of dentistry has been rapid. The place it occupies among the professions is an index to the progressive development of the times. No vocation has made more rapid advances, and the most important of these have been made within the last twenty years. The product of inventive and scientific minds has been, and is, enlisted in its interests. Among its votaries are men of broad culture, whose investigations have done much to illuminate the scientific world. The province of the dentist to-day is not circumscribed. He should be prepared to exercise the special functions of an oral surgeon, and not simply to devote his attention to the care of the teeth. Mechanical skill is an indispensable requisite, but a prerequisite to his success is a knowledge which will enable him to treat the diseases to which the mouth is subject.

In our cities dentistry is divided into specialties, the operative dentist, devoting his time and attention to the natural teeth and to oral diseases, and the mechanical dentist supplying lost teeth with mineral substitutes and mechanical devices, while extracting is frequently a special branch. It may be interesting to the public to know that there are some thirty dental colleges in this country alone.

Many of the graduates go to all parts of the world; and scores of foreigners come here to receive their dental education. The reputation of the American dentist is world wide; he seems to excel in ingenuity and manipulative ability. Dental schools are a necessity. Our early practitioners were careful to keep their secrets—from five hundred to one thousand dollars being charged the student for the privilege of office instruction. Those desiring to enter the profession were obliged to get their instruction from the leading dentists, or enter it and trust to their ingenuity, and without a knowledge of it; but to-day instruction is imparted and methods fully explained; selfish and illiberal views are no longer tolerated. Educational facilities have broken down the barriers, and enable the student to enter upon a course of professional fame with every means of acquiring knowledge from the most experienced in the land.

To protect the public from the impositions of incompetent men, who made great pretensions to proficiency, most of the States have passed legislative enactments regulating the practice of dentistry within their own borders, thus protecting the people against charlatanism. Women are graduating from the dental colleges in increasing numbers, and many of them show marked aptitude as operators. They are about forming an independent dental association for women.

Some idea may be had of the enormous demand for dental goods when we consider the number of large establishments that are in operation for the manufacture of dental mechanism and materials. One house alone has six branches, and about twelve hundred employees. While men's minds and hands are better trained than ever, dental mechanism has also been greatly perfected. Gold being the "lever that moves the world," it is also the recognized standard as a filling material for teeth. In the early days gold foil was obtained by rolling or beating coins into sheets. These were cut in pieces, torn off, and rolled between the fingers into various sizes.

Now we have gold prepared in over one hundred and fifty forms, differing in size, variety, thickness, and style. Some of these preparations are very delicate, and in the smallest size there are over 300,000 in a pound. They are ready for immediate introduction into any size cavity. Porcelain, from its color, is much in favor for front teeth.

The application of electricity is among the essentials of modern dentistry. An electric motor supplies the power where rotary motion is desired; an electro-magnetic mallet is used to condense gold; an electric mouth lamp for "illuminating" the mouth, and an electric cautery for various purposes. The mechanical appliances and the improvements in materials and methods make it possible to restore almost any mouth to healthfulness, comfort, utility and beauty. The skill of the artist is displayed to a high degree in the line of prosthetic dentistry. In the matter of naturalness teeth can be so approximated in color, shape, and size as to defy the possibility of detection. About forty millions of porcelain teeth are manufactured annually in the United States. Pure metals and minerals are used which are durable and cleanly.

Great attention is given to correcting irregularities in the teeth of growing children. A few years ago rubber bands and wooden wedges were extensively used for moving the teeth. They were exceedingly painful and annoying to the patient. The appliances for accomplishing this work are now made of gold and other metals, and the pressure being exerted by screws and springs, it is more gentle and less painful and not nearly as cumbersome.

Gentleness, patience, sympathy, cleanliness, kindness, and skill are the elements that make the successful dentist of to-day. It is gratifying to note that the advancement is not altogether along professional lines. The intelligence of the public and their appreciation of the necessity of preserving their teeth make the demand for extensive improvements and higher attainments imperative.

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DEATH AS A FACTOR IN PROGRESS

HUMANITY has a faculty for ignoring and abusing its benefactors which amounts almost to a genius. Scarcely an age can be mentioned which has not starved its Homer, poisoned its Socrates, banished its Aristides, stoned its Stephen, burned its Savonarola, or imprisoned its Galileo. Nor is this strange perversion of sentiment confined to its fellow mortals. The great, calm, stern, yet loving forces of Nature have constantly fallen under the same unjust stigma, and though we have outlived many early misconceptions or misrepresentations of most of these, a ghastly, repulsive, lying mask is still permitted to conceal the kindly, though stern features of